SUPERIOR WELL SERVICES

SUPERIOR
Hays, Kansas

DUAL INDUCTION LOG

Company MULL DRILLING COMPANY, INC.
Well #1-13 GARVEY UNIT
Field WILDCAT
County GOVE State KANSAS

Location: API # : 15-063-21779-0000
1811' FSL & 231' FEL
SEC 13 TWP 15S RGE 27W

Other Services
CDL/CNL
MEL/SONIC

Permanent Datum GROUND LEVEL Elevation 2458
Log Measured From KELLY BUSHING 9' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2467
D.F. 2465
G.L. 2458

Company MULL DRILLING COMPANY, INC.
Well #1-13 GARVEY UNIT
Field WILDCAT
County GOVE
State KANSAS

Date	7/8/09		
Run Number	ONE		
Depth Driller	4425		
Depth Logger	4426		
Bottom Logged Interval	4424		
Top Log Interval	00		
Casing Driller	8 5/8"@210'		
Casing Logger	209		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2,600 PPM	
Density / Viscosity	9.1/52		
pH / Fluid Loss	10.0/8.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.700@96F		
Rmf @ Meas. Temp	.525@96F		
Rmc @ Meas. Temp	.840@96F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.560@120F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	7:30 P.M.		
Maximum Recorded Temperature	120F		
Equipment Number	0836		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	KEVIN KESSLER		

<<< Fold Here >>>

Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395

DIRECTIONS

UTICA, KS. 3W. ON HWY 4 TO CASTLE ROCK RD., 6 1/2N. TO GOVE COUNTY RD. "C"., 2E. & N. ON CURVY RD. TO OLD FARMSTEAD. TURN E. BETWEEN LIMESTONE HOUSE & METAL SHED TO PASTURE BEHIND TREES

MAIN SECTION

SUPERIOR
Hays, Kansas

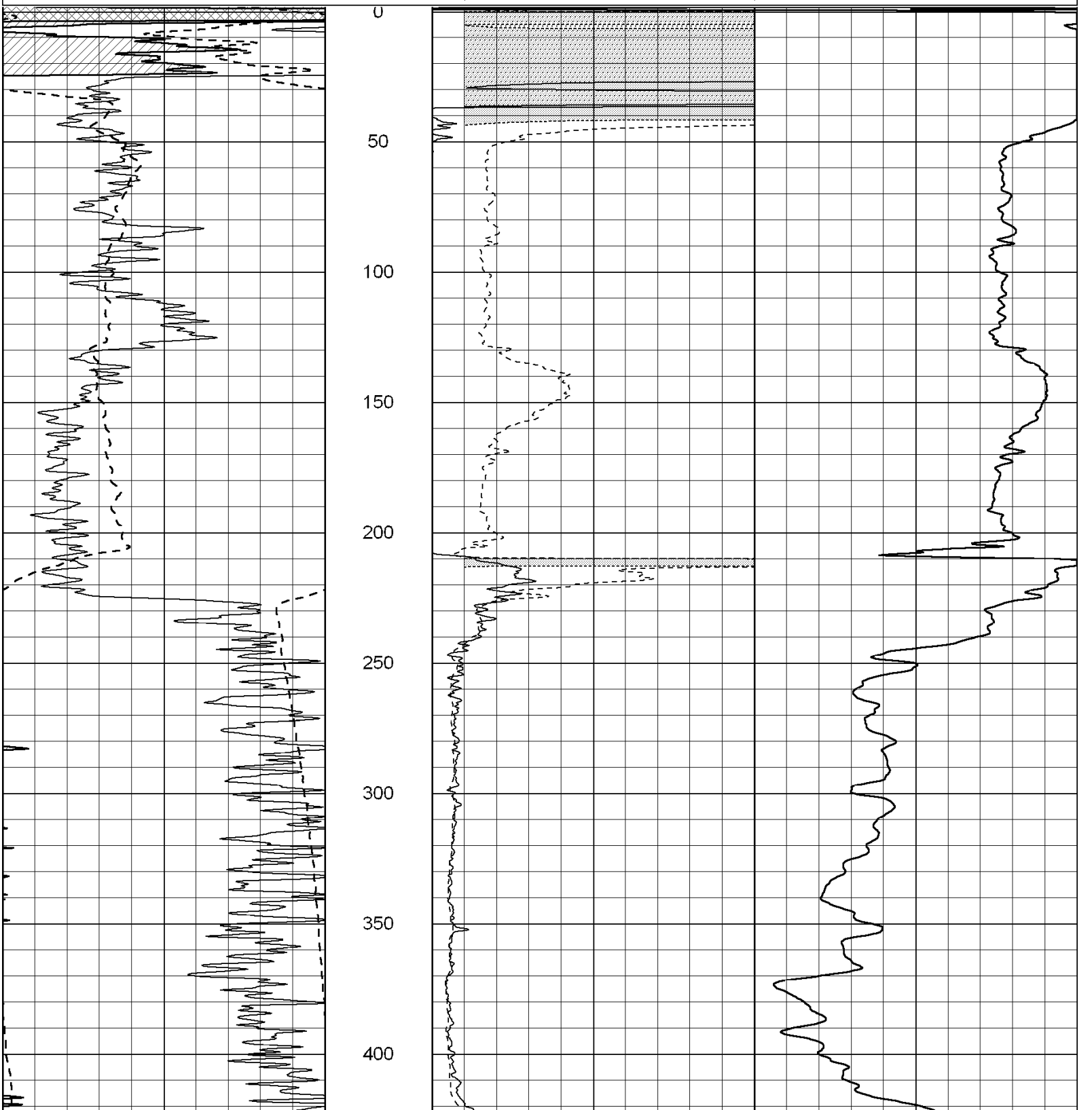
SUPERIOR WELL SERVICES

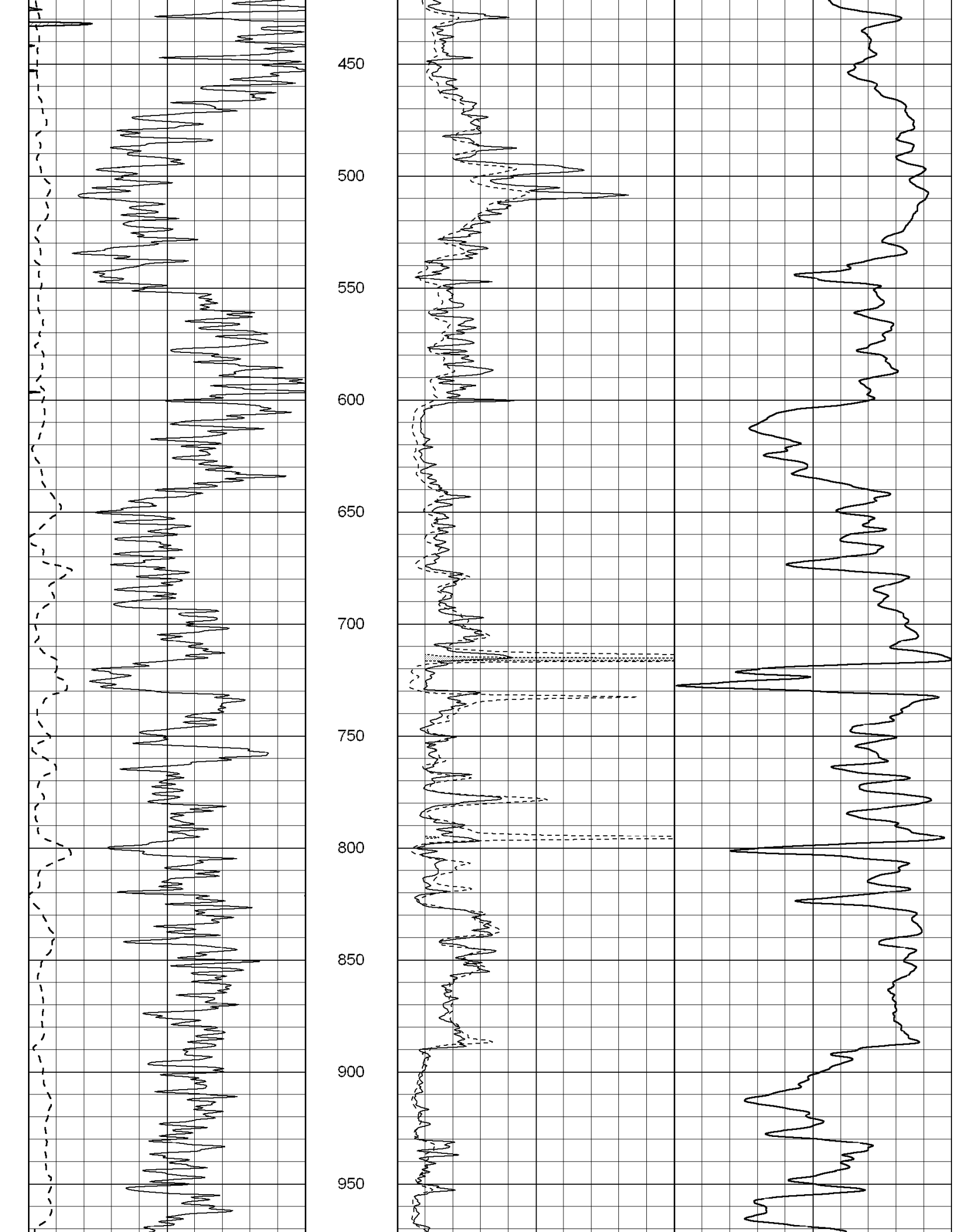
Kansas

Database File:	003538ddn.db
Dataset Pathname:	pass3.3
Presentation Format:	dil2
Dataset Creation:	Wed Jul 08 20:48:05 2009 by Calc Open-Cased 060407
Charted by:	Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
1000	CILD (mmho-m)	0
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

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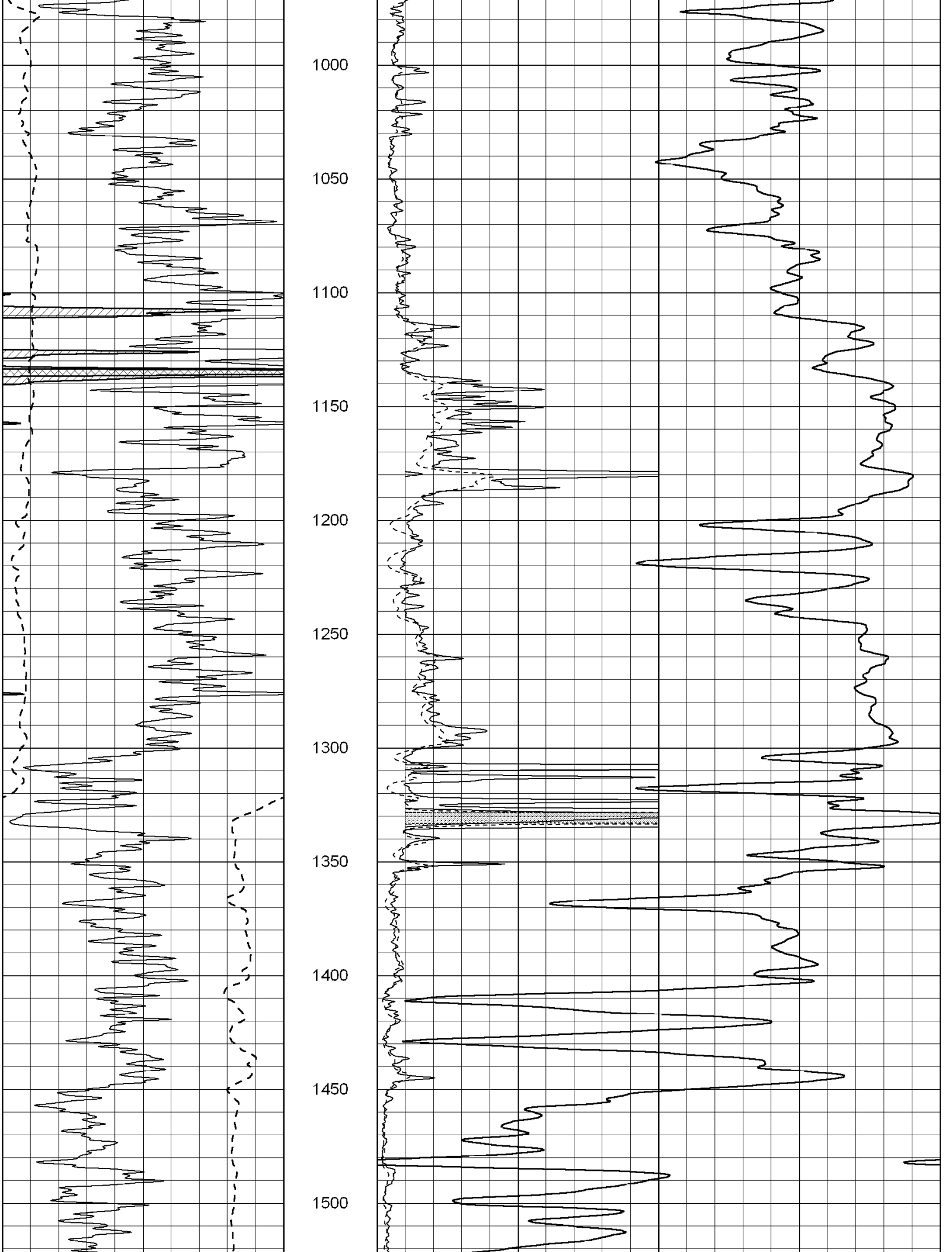
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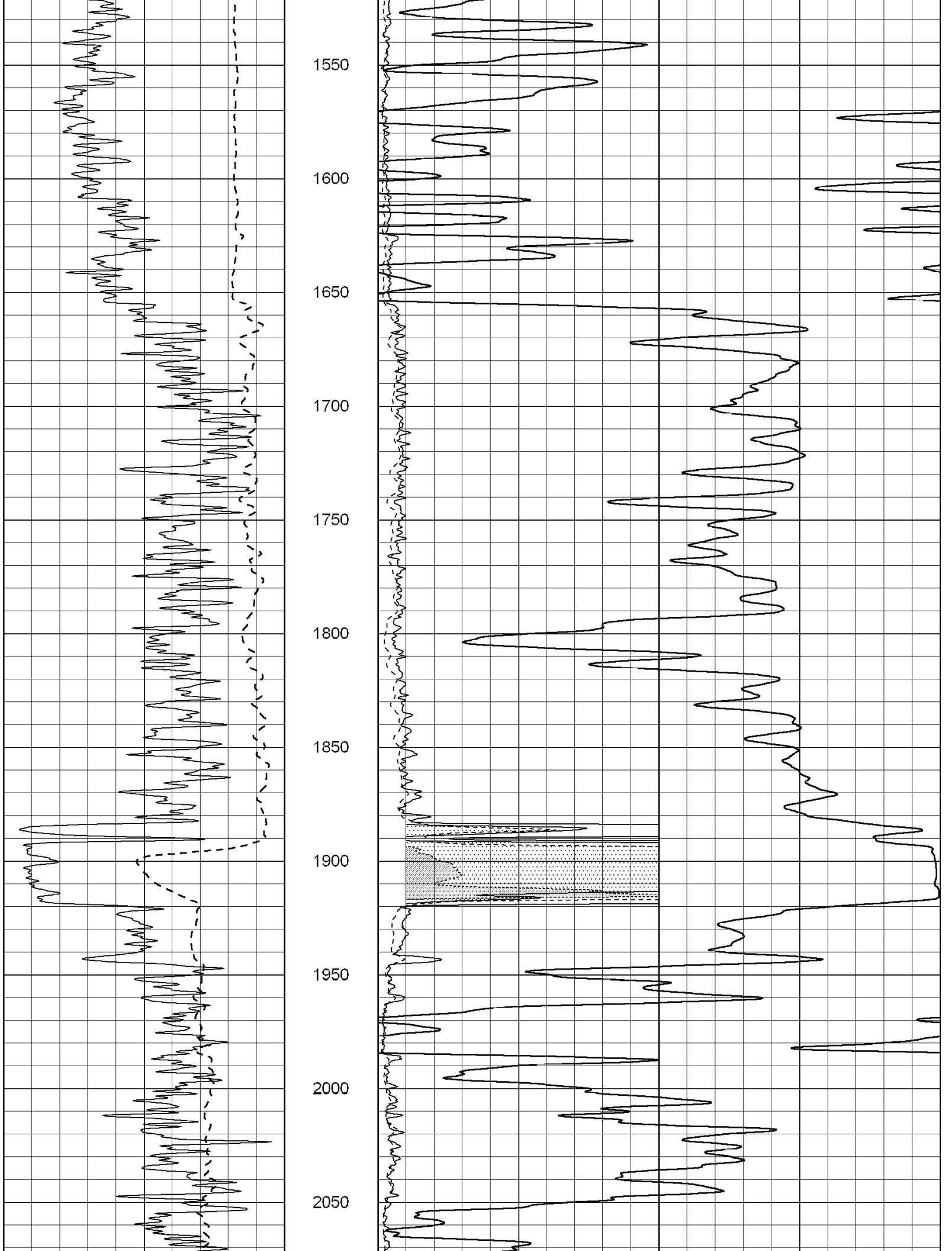
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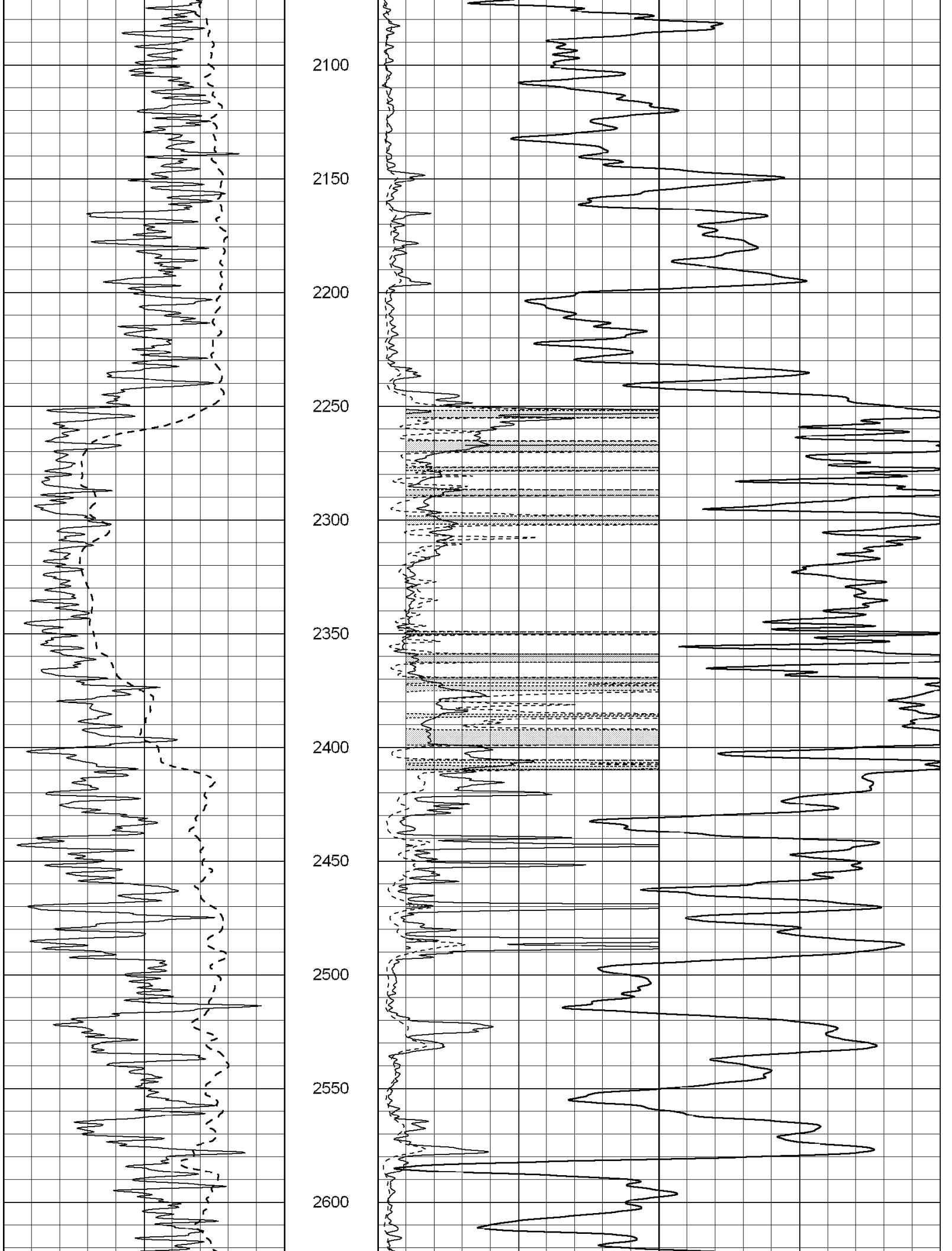
2050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2550
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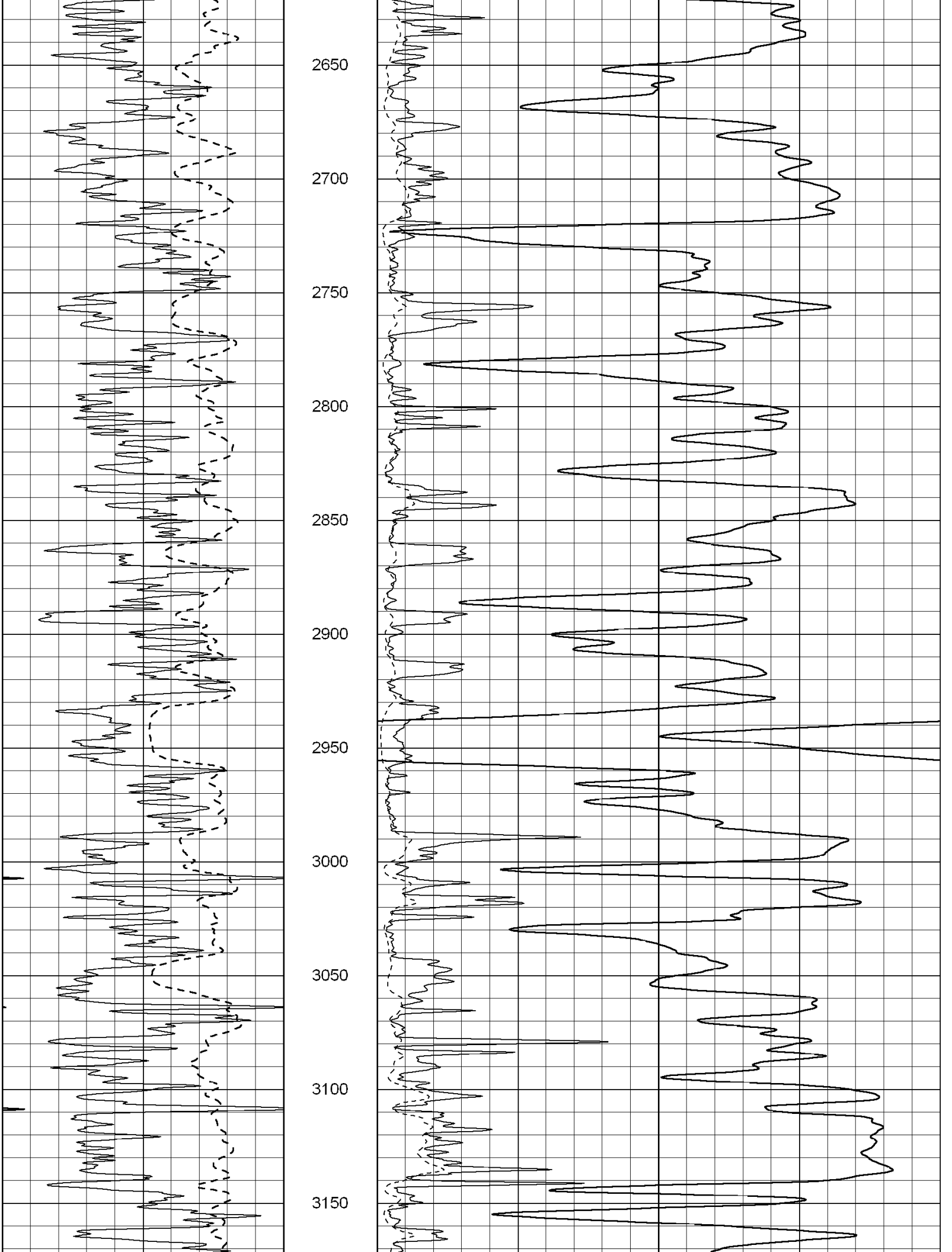
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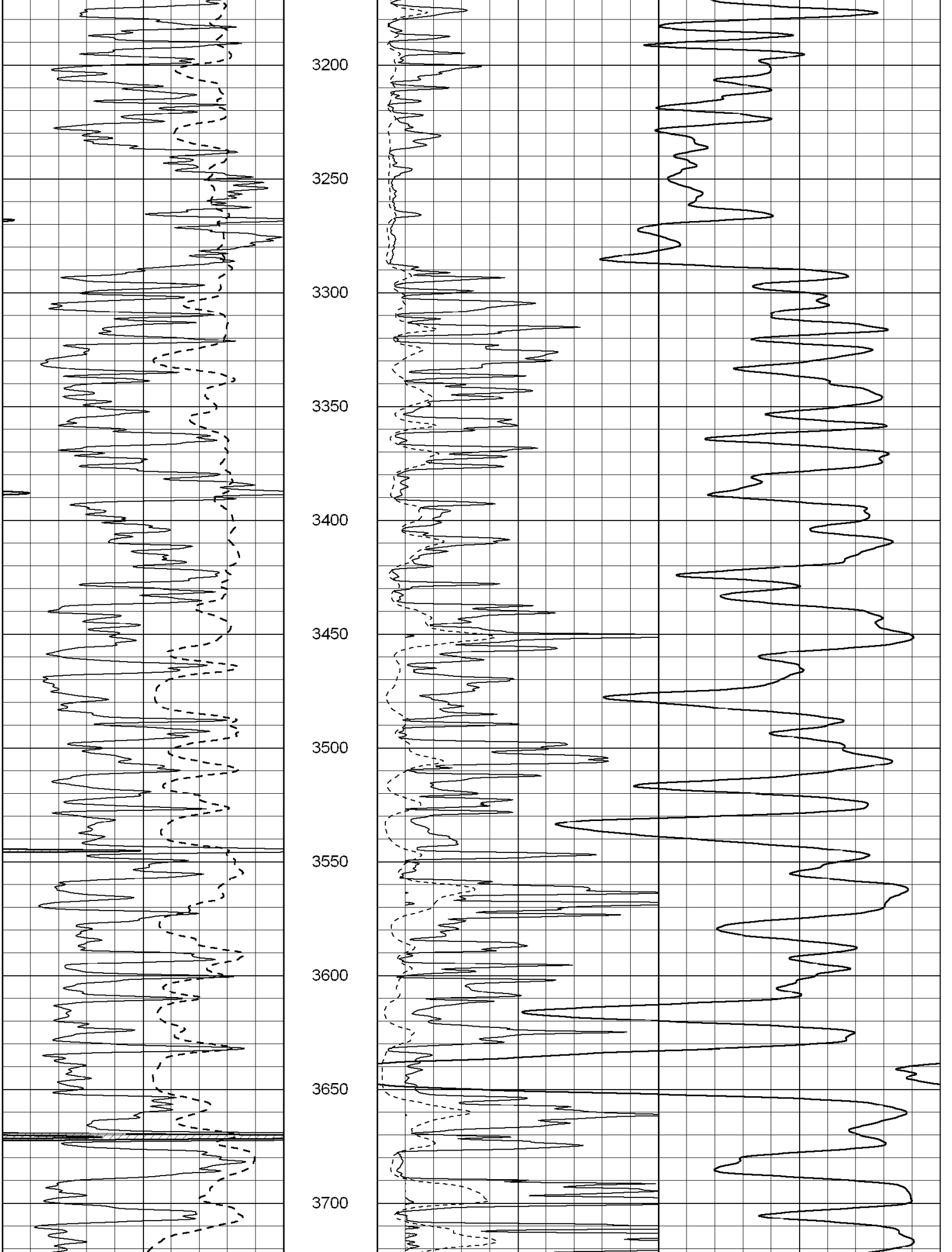
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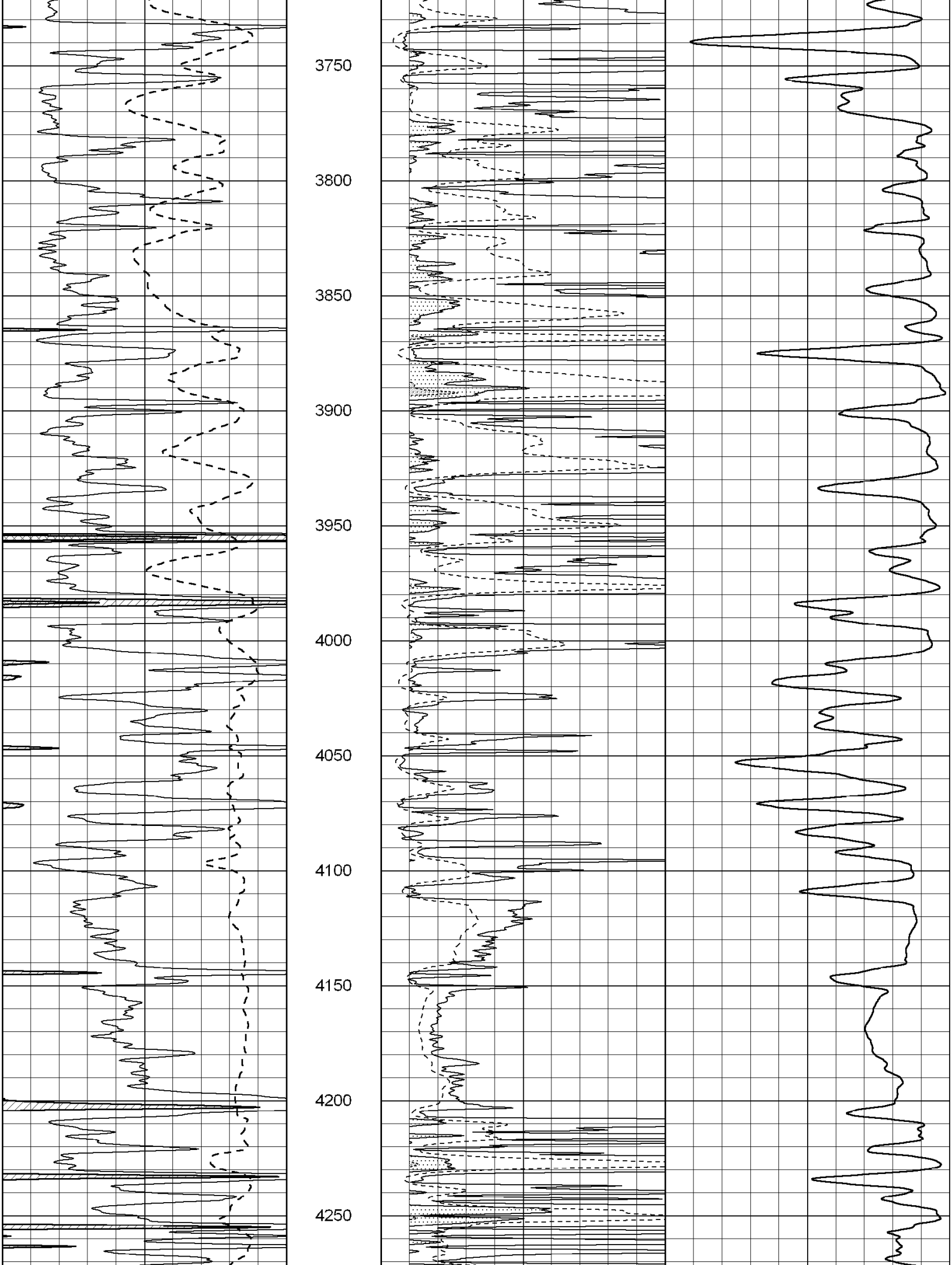
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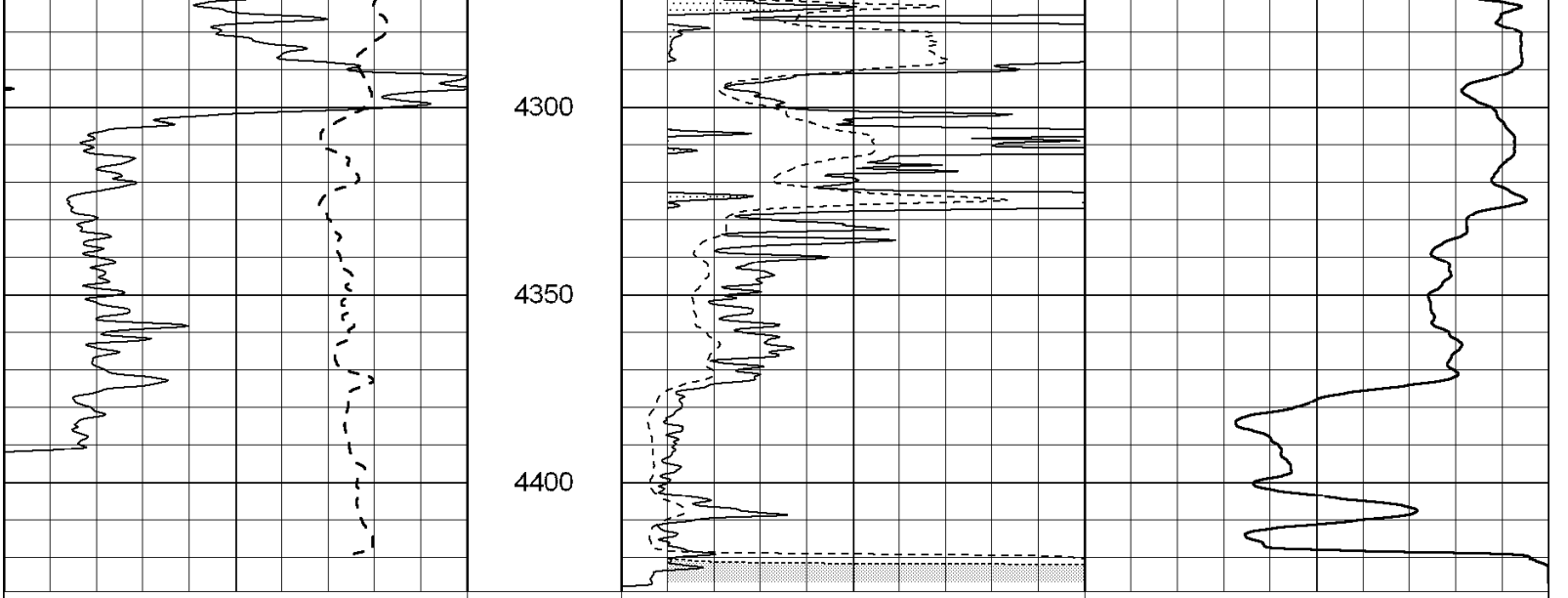
4250

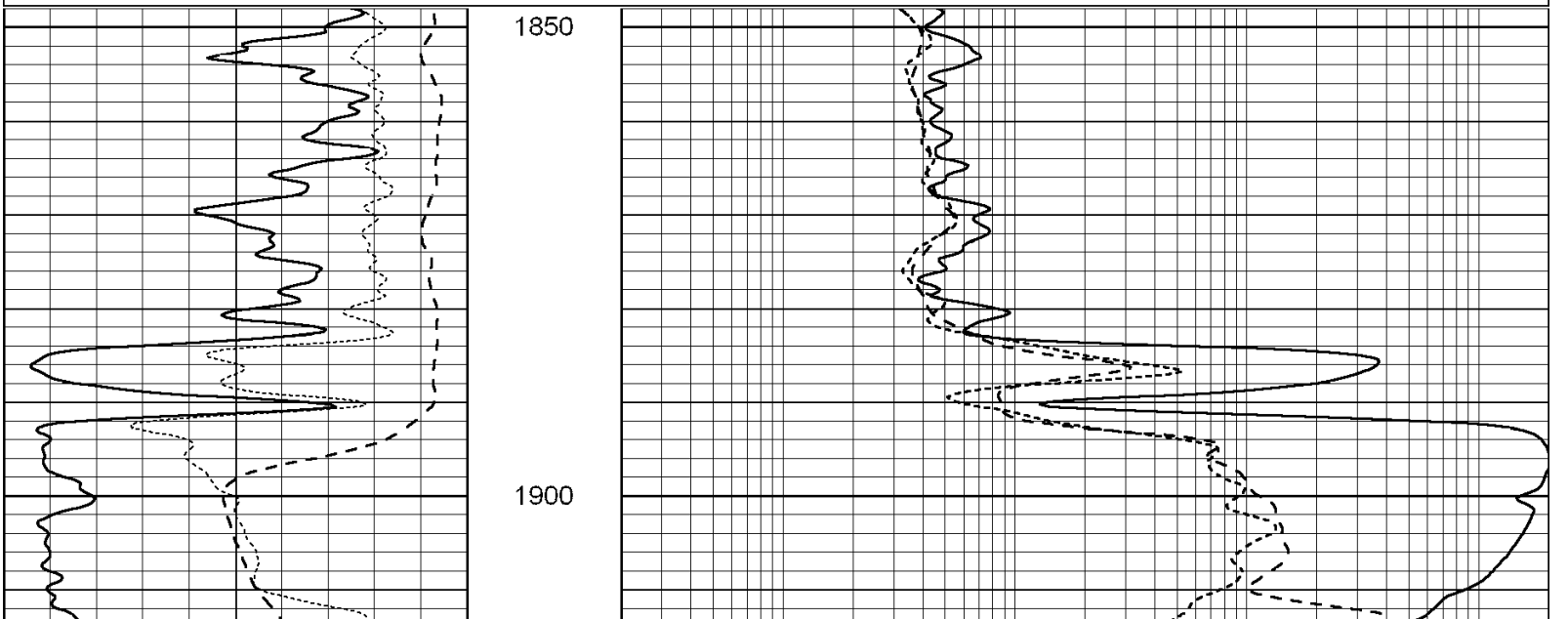


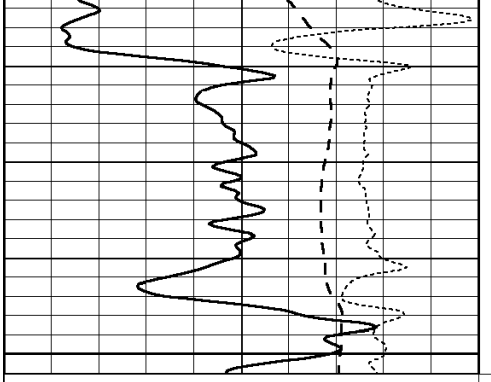
SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

ANHYDRITE

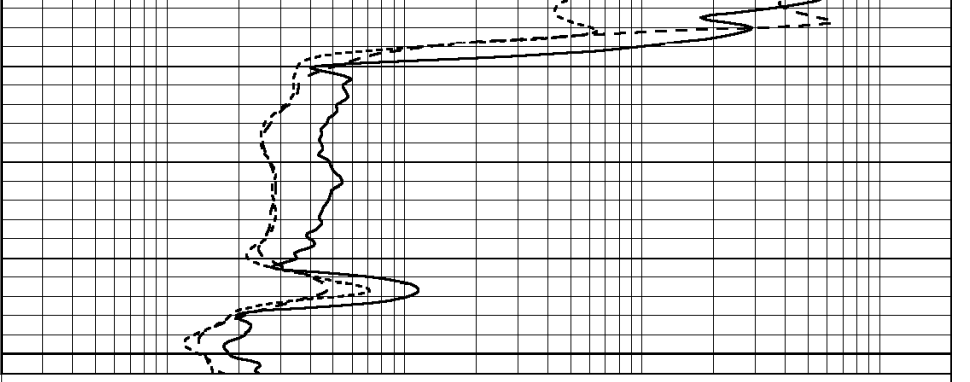
Database File:	003538ddn.db
Dataset Pathname:	pass3.4
Presentation Format:	dil
Dataset Creation:	Wed Jul 08 20:48:20 2009 by Calc Open-Cased 060407
Charted by:	Depth in Feet scaled 1:240





1950

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50



0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

SUPERIOR WELL SERVICES

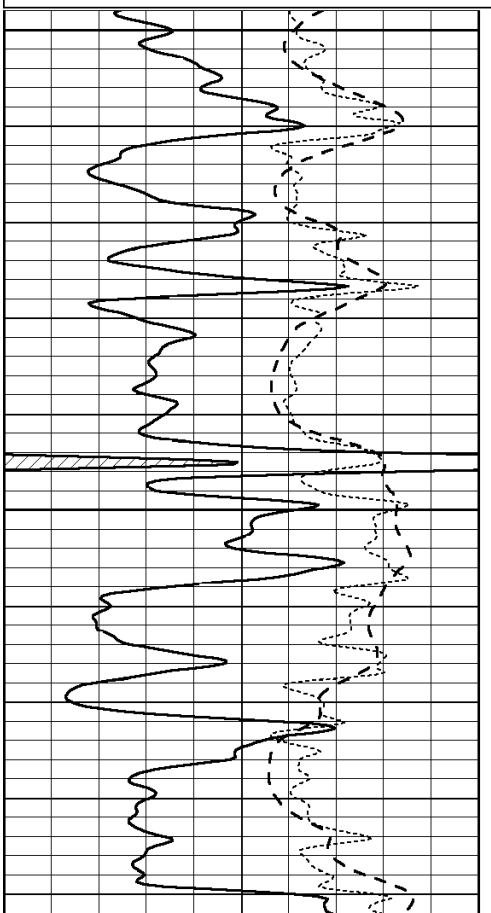
SUPERIOR
Hays,
Kansas

MAIN SECTION

Database File:	003538ddn.db
Dataset Pathname:	pass3.3
Presentation Format:	dil
Dataset Creation:	Wed Jul 08 20:48:05 2009 by Calc Open-Cased 060407
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



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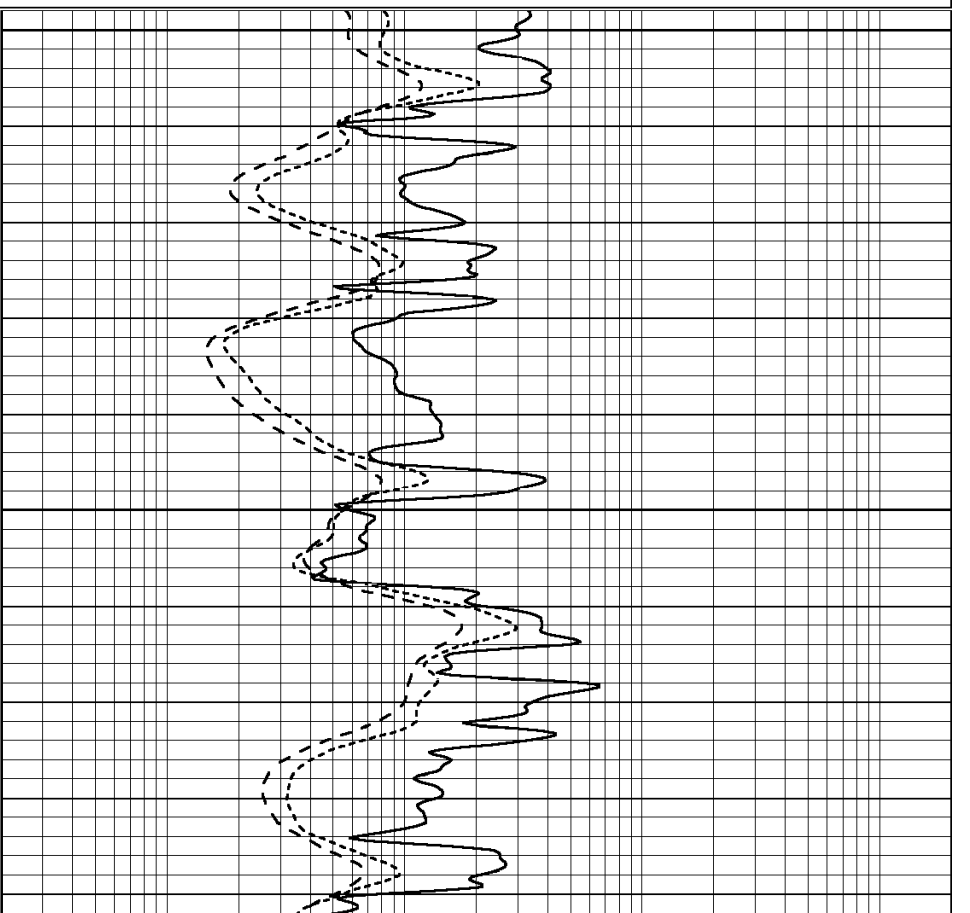

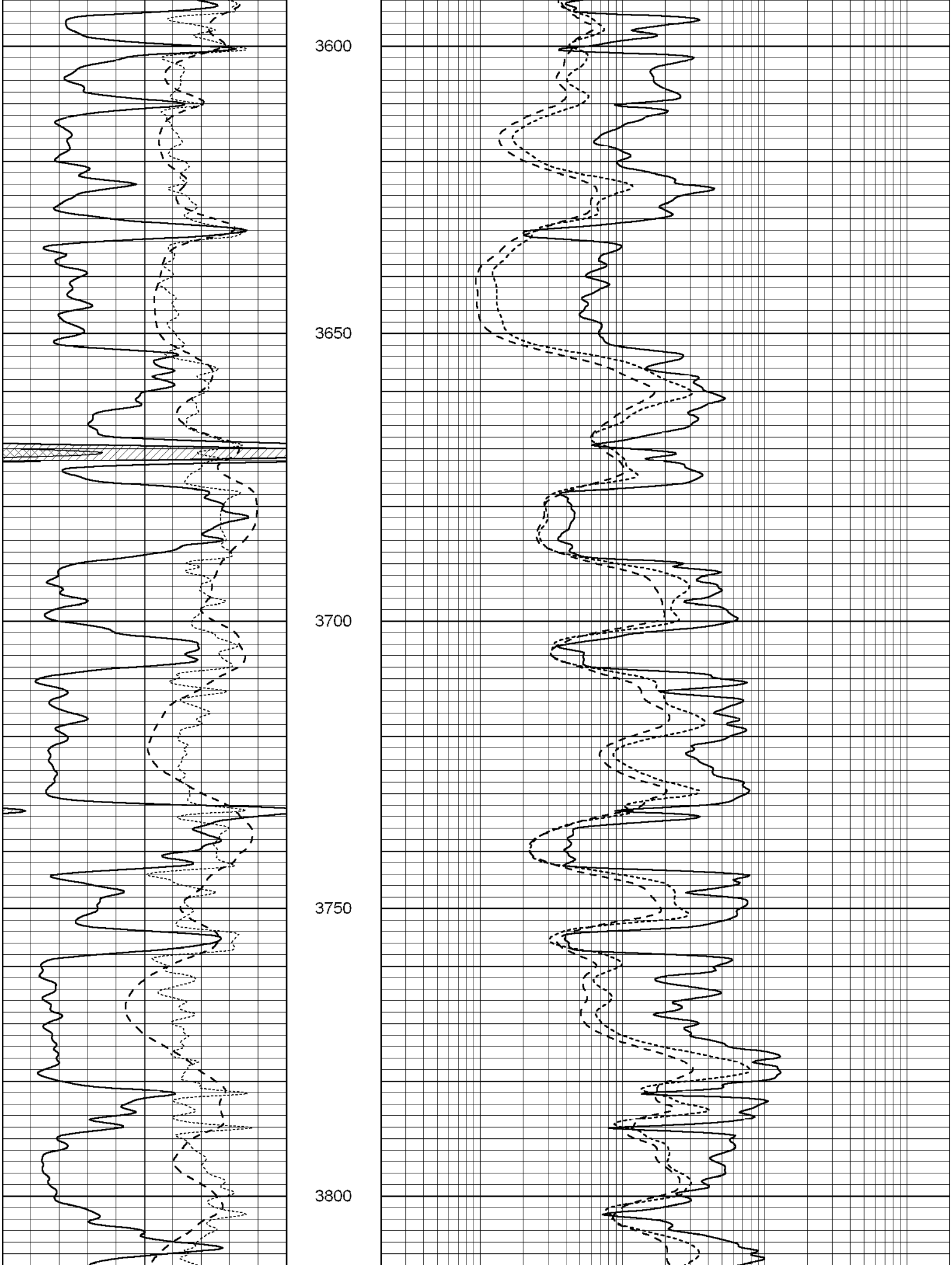
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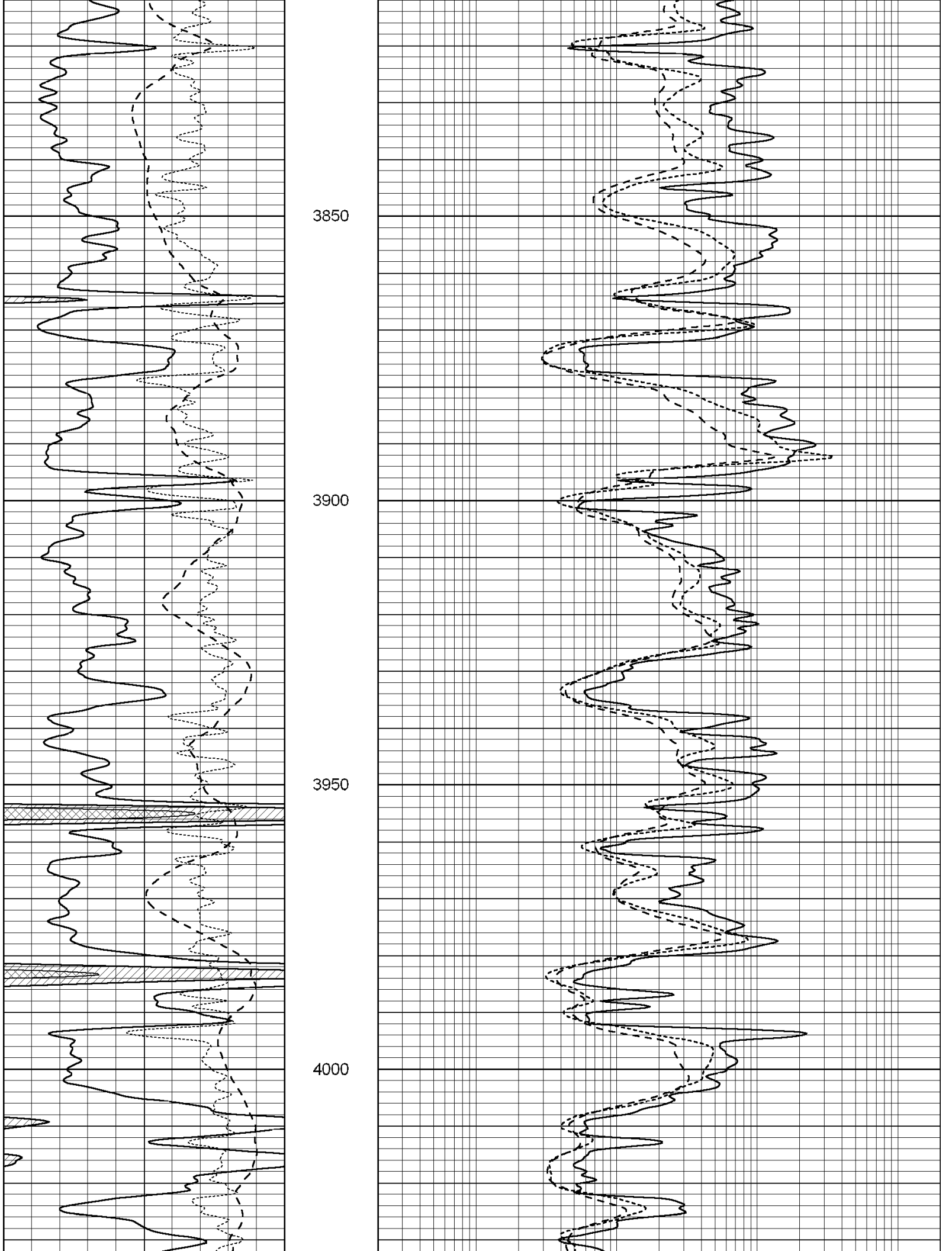
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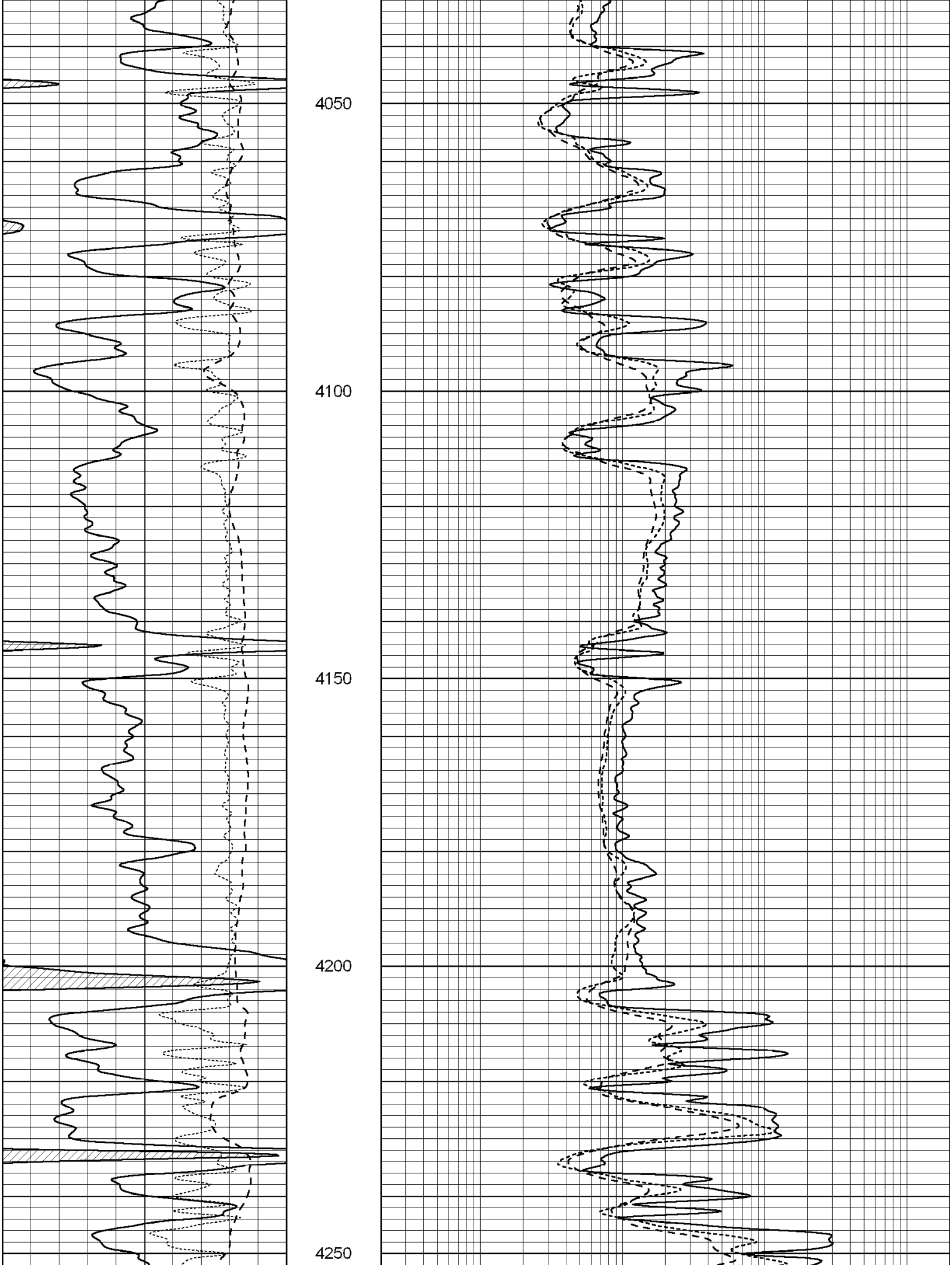
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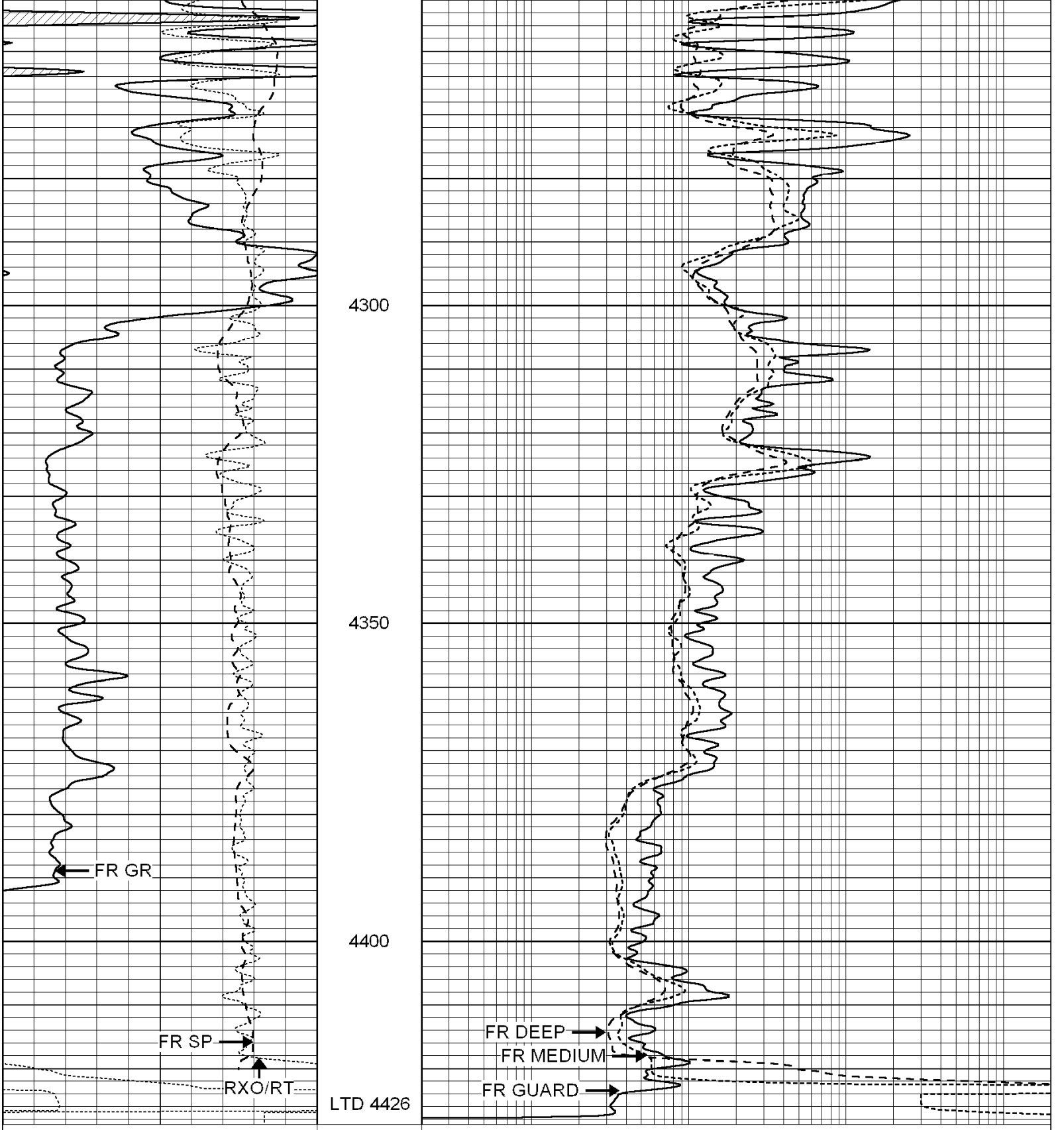


SUPERIOR WELL SERVICES

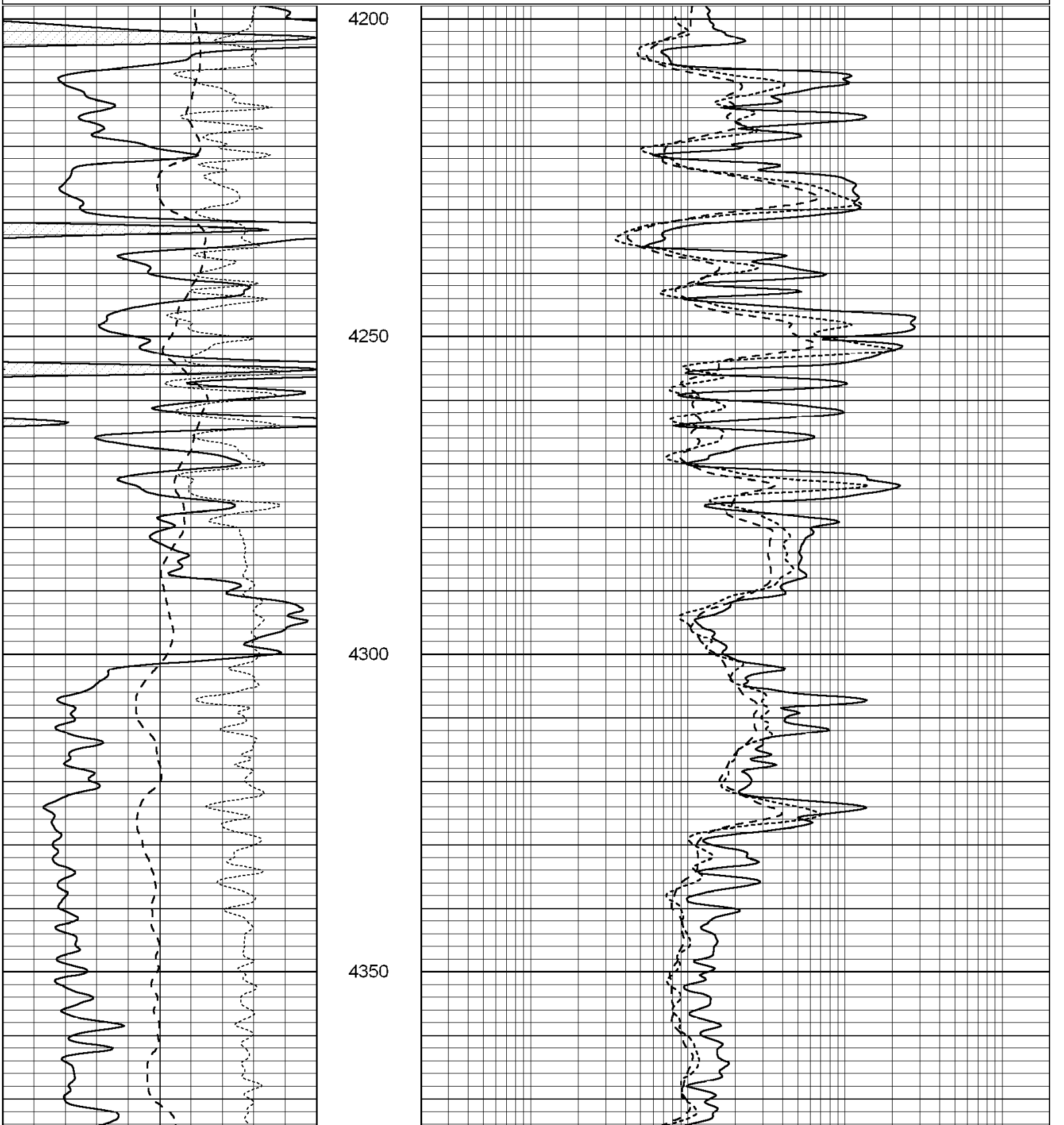
SUPERIOR
Hays,
Kansas

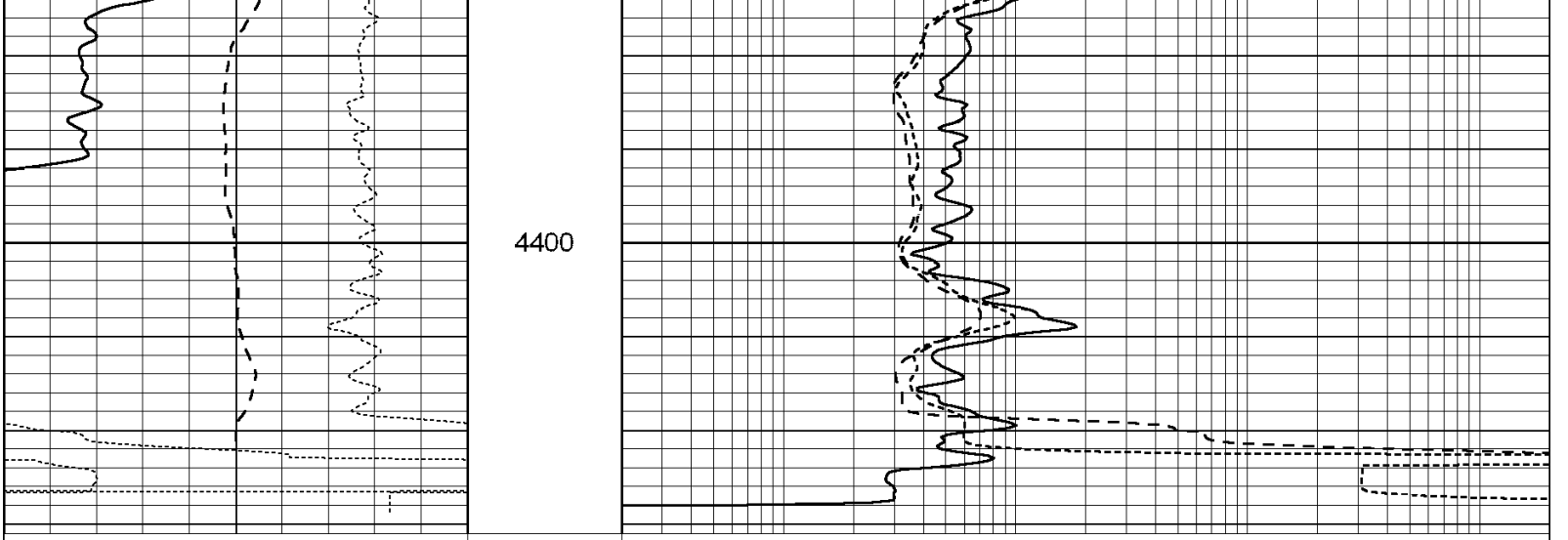
REPEAT SECTION

Database File:	003538ddn.db
Dataset Pathname:	pass2.5
Presentation Format:	dil
Dataset Creation:	Wed Jul 08 20:08:40 2009
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000





0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

Calibration Report

Database File: 003538ddn.db
Dataset Pathname: pass3.3
Dataset Creation: Wed Jul 08 20:48:05 2009 by Calc Open-Cased 060407

Dual Induction Calibration Report

Serial-Model: DIL2-GEAR
Performed: Wed Jul 08 18:06:21 2009

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.002	0.667	V	0.000	400.000	mmho-m	650.000	5.000
Medium	-0.003	0.739	V	0.000	462.500	mmho-m	720.000	-15.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.001	0.658	V	0.000	400.000	mmho-m	609.010	-0.700
Medium	0.015	0.761	V	0.000	462.500	mmho-m	620.392	-9.326

Litho Density Calibration Report

Serial: 003N Model: PRB
Performed Mon Jun 08 10:53:05 2009

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	2028.8	12047.1	4181.3	13199.9	cps
Window 2	1822.8	9337.8	3431.4	10000.3	cps
Window 3	1564.8	5811.2	2442.8	6095.5	cps
Window 4	469.1	474.6	468.9	469.9	cps
Long Space	0.0	7514.9	1608.6	8177.4	cps
Short Space	1.9	2397.2	1539.5	2522.0	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	

Rib Angle	: 44.0	Rib Slope	: 0.965	Density/Spine Ratio	: 0.549
Spine Angle	: 74.0	Spine Slope	: 3.481	Spine Intercept	: -18.2

Caliper

	Readings	Reference
Low Ref	2.1	6.4
High Ref	4.4	14.0

Gain: 3.2 Offset: -0.3

Compensated Neutron Calibration Report

Serial Number: NEU_3I
Tool Model: G

CALIBRATION

Detector	Readings		Target		Normalization
Short Space	997.00	cps	1000.00	cps	1.0000
Long Space	986.00	cps	1000.00	cps	1.0000

Gamma Ray Calibration Report

Serial Number:	GR3	
Tool Model:	OPEN	
Performed:	Wed Jul 08 20:02:01 2009	
Calibrator Value:	200.0	GAPI
Background Reading:	3.0	cps
Calibrator Reading:	186.0	cps
Sensitivity:	0.4500	GAPI/cps